AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 09/864,156
Filing Date: May 25, 2001
Title: TEXT CLASSIFICATION SYSTEM

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REMARKS

This is in response to the Office Action mailed on <u>October 12, 2004</u>, and the references cited therewith.

Claims 1-4, 6, 8, 11-16, 19-34, 38-42, and 45-92 are amended and no claims are canceled or added; as a result, claims 1-4, 6, 8, 11-16, 19-34, 38-42, and 45-92 are now pending in this application.

Claim 69 Amendment

Claim 69 is amended to correct a typographical error. Claim 69, as previously pending, depended from claim 58. The amendment corrects this dependence of claim 69 to claim 68. Entry of this amendment is requested.

Claim Objections

Claims 2 and 33 were objected to because of informalities. These claims are amended to correct the informalities as requested in the Office Action. Entry of these amendments and withdrawal of these objections are respectfully requested.

§101 Rejection of the Claims

Claims 1-92 were rejected under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter. The Office Action stated that the methods in these claims lack a technological basis.

Claims 1-4, 6, 8, 11-16, 19-34, 38-42, and 45-92 are amended to clarify the structural and functional interrelationship in which the computing process of these methods within the claims are performed. For example, these claims are amended to clarify that the methods are computerized method on the systems of the claims. Thus, Applicant respectfully submits that the claims define statutory subject matter.

§112 Rejection of the Claims

Claim 48 was rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. This rejection is based on the use of the word "substantially" in claim 48. However, applicant respectfully submits that the use of "substantially" in claim 48 is clear because the use of the phrase "substantially unrelated" in claim 48 is directed to a degree of relation between a category of one perspective and categories of different perspectives. Thus, Applicant submits claim 48 is definite in its present form. Withdrawal of the § 112, second paragraph rejection of claim 48 is respectfully requested.

Claims 85-86 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action rejected claims 85-86 because of the use of the word "essentially" in both claims. Applicant amended claims 85-86 to remove the word "essentially" as requested. This amendment is made merely to clarify the claims, and as such, this amendment is not intended to affect the scope of either claim. Withdrawal of the § 112, second paragraph rejection of claims 85-86 is respectfully requested.

Claim 91 was rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 91 was rejected based on the use of the word "generally" in the claim. Claim 91 is amended to remove the word "generally" to merely clarify the claim. As such, this amendment is not intended to affect the scope of the claim. Withdrawal of the § 112, second paragraph rejection of claim 91 is respectfully requested.

§103 Rejection of the Claims

I.   **Claims 1-4, 6, 8, 11-12, 45-71**

Claims 1, 45, 47-48, 50-60, 62 and 68-70 were rejected under 35 USC § 103(a) as being unpatentable over Giljum et al. (U.S. Patent No. 6,745,238 B1) further in view of Cole et al. (U.S. Patent No. 5,621,857) further in view of Kleider et al (U.S. Patent No. 5,930,748).

Claims 2-3, 61 and 71 were rejected under 35 USC § 103(a) as being unpatentable over Giljum et al., further in view of Cole et al., further in view of Kleider et al. and further in view of Asai (U.S. Patent No. 5,257,394).

Claims 4 and 6 were rejected under 35 USC § 103(a) as being unpatentable over Giljum et al., further in view of Cole et al., further in view of Kleider et al. and further in view of Stoddard et al. (U.S. Patent No. 4,817,623).

Claims 8 and 11 were rejected under 35 USC § 103(a) as being unpatentable over Giljum et al., further in view of Cole et al., further in view of Kleider et al. and further in view of Stoddard et al., further in view of Murai et al. (U.S. Patent No. 4,817,623).

Claim 12 was rejected under 35 USC § 103(a) as being unpatentable over Giljum et al., further in view of Cole et al., further in view of Kleider et al. and further in view of Inazumi et al. (U.S. Patent No. 6,151,592).

Claim 46 was rejected under 35 USC § 103(a) as being unpatentable over Giljum, further in view of Cole, further in view of Kleider, further in view of Fein et al. (U.S. Patent No. 5,924,108).

Claims 49 and 63-67 were rejected under 35 USC § 103(a) as being unpatentable over Giljum, further in view of Cole, further in view of Kleider, further in view of Murphy (U.S. Patent No. 5,073,867).

A.   Reserve Right to Swear Behind Giljum

With regard to Giljum, Applicant expressly reserves the right to swear behind this reference under 37 CFR § 1.131. The Giljum reference was filed on March 31, 2000. However, the present application claims the benefit of Provisional Patent Application 60/206,975, entitled "System and Method for Automatically Classifying Text," filed on May 25, 2000. However, while reserving the right to swear behind Giljum, Applicant will address the Guljum reference at this time.

B.   Claims 1-4, 6, 8, 11-12, 45-71 Are Patentable

Applicant respectfully submits that claims 1-4, 6, 8, 11-12, 45-71 are patentable because the Office Action did not make out a *prima facie* case of obviousness because even if combined,

the cited references fail to teach or suggest all of the elements of applicant's claimed invention.

Further, there is no suggestion to combine the cited references because a suggestion to combine

must come from the prior art and not from Applicant's specification or impermissible hindsight.

1.   All Elements

The references, when combined, must teach or suggest all the claim elements. M.P.E.P.

§ 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)). However, the

combination of Giljum, in view of Cole and Kleider fails to teach all of the elements of

independent claim 1.

For example, the Office Action admits on page 4 at paragraph 10 that:

"Giljum fails to disclose producing a category vector for each category, wherein
each category vector includes a weight corresponding to each category feature,
said weight indicative of a degree of association between said category feature
and said category; associating item features with each item, wherein each of said
item features represents one of a plurality of tokens found in said item; producing
a feature vector for each item, where each feature vector includes said item
features with a count corresponding to each item feature, and count indicative of
the number of times said item [feature appears in said item]."

The Office Action states that Cole teaches these elements. Applicant respectfully disagrees For

example, Applicant is unable to locate where category vectors for each category and a feature

vector for each item are taught in Cole. Further, Applicant is unable to locate in Cole where

feature counts or feature weights are taught.

The Office Action further admits on page 5 at paragraph 10 that:

"Giljum fails to disclose multiplying said category vector by said item vector to
produce a plurality of category scores for each item; and for each perspective,
across multiple perspectives, classifying an item into a category provided said
category score exceeds a predetermined threshold."

The Office Action states that Kleider cures this deficiency, stating that Kleider "discloses

multiplication involving vectors and uses of a threshold in a classification task. Kleider,

however, states that:

"The present invention provides a method of identifying an individual
from a predetermined set of individuals using a speech sample spoken by the
individual. The speech sample comprises a plurality of spoken utterance, and each
individual of the set has predetermined speaker model data. The method

comprises the steps of removing silence from the speech sample to create a removed silence speech sample, determining linear predictive (LP) coefficients for the removed silence speech sample using an LP analysis, performing a polynomial expansion on the LP coefficients, and multiplying the expanded coefficients with the speaker model data for each speaker, to create an score vector for each speaker. The method also includes the steps of averaging terms of each score vector to create an average score value for each speaker of the set, and selecting one individual from the set based on the average score value associated therewith. In a preferred embodiment, the method includes the step of providing a probability factor for the selected individual based on a number of average score values above a threshold." Kleider, col. 1, lines 46-65.

This portion of Kleider, and others, although describing multiplication, fail to teach "multiplying said category vector by said item vector" as described by Applicant and claimed in claims 1-92.

On a related topic, the Office Action states on page 4 at paragraph 10 in providing claimed elements that "it was notoriously well known in the art at the time of the invention that perspectives without categories serve no useful purpose, so it would have been obvious to one of ordinary skill in the art at the time of the invention to have the perspective have at least one category so as to have the perspectives serve a useful organizational function." This unsupported statement amounts to a form of Official Notice that is unsupported by a reference, and which is timely traversed under MPEP 2144.03. Applicant requests the Examiner provide a reference that describes such an element. Absent a reference, it appears that the Examiner is using personal knowledge, so the Examiner is respectfully requested to submit an affidavit as required by 37 C.F.R. § 1.104(d)(2).

Thus, because Cole and Kleider fail to cure the admitted deficiencies of Giljum, and in view of the unsupported Official Notice, Applicant respectfully submits that the references, either alone or in combination, fail to teach all the claim elements.

2. No motivation to combine the references

Applicant further submits that there is no motivation to combine Giljum, Cole, and Kleider. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The Examiner must avoid hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990).

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Additionally, the Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). The Office Action has not provided a proper motivation to combine the references as required.

For example, the Office Action stated, "It would have been obvious to one of ordinary skill in the art at the time of the invention to use vectors in the manner of Cole in the context of Giljum in order to allow successful classification." The Office Action further stated, "Kleider discloses multiplication involving vectors and use of a threshold in a classification task, and it would have been obvious to one of ordinary skill in the art at the time of the invention to use these teaching of Kleider, the context of Giljum in conjunction with the teachings of Cole in order to produce a combined invention that would have enhanced powers of classification." As discussed above, these statements are not only incorrect as to the teaching of the references, these are mere conclusory statement of subjective belief. Applicant submits that the Office Action is using impermissible hindsight and has failed to make any attempt to show a reasonable expectation of success in combining the references from the prior art. Thus, Applicant respectfully submits that there is no motivation to combine the references.

3. Summary

Thus, because the combination of Giljum, Cole, and Kleider, fails to teach all of the claimed elements and because there is no motivation to combine the references, Applicant respectfully submits that independent claim 1 is allowable. Reconsideration and withdrawal of the rejection of claim 1 is respectfully requested.

Independent claims 48 and 56 include similar elements to claim 1 and are allowable for at least the same reasons.

Claims 2-4, 6, 8, 11-12, and 45-47 depend, directly or indirectly, from patentable independent claim 1; claims 49-55 depend, directly or indirectly, from patentable independent claim 48; and claims 57-71 depend, directly or indirectly, from patentable independent claim 56. These dependent claims are patentable for the reasons argued above, plus the elements in the

claims. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. MPEP § 2143.03.

II.   Claims 13-16, 19-34, 38-42

Claims 13-15, 19-21, 26, 31 and 40 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al.

Claims 16 and 32-34 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of McInerney et al. (U.S. Patent No. 5,325,333).

Claim 22 was rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Zamora et al. (U.S. Patent No. 4,833,610).

Claims 23-25 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Walls et al. (U.S. Patent No. 5,835,918).

Claims 27-30 were rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Togami (JP407160658A).

Claim 38 was rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Fein et al. (U.S. Patent No. 5,924,108).

Claim 39 was rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Rongley (U.S. Patent No. 5,758,322).

Claim 41 was rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Quinn (U.S. Patent No. 5,761,385).

Claim 42 was rejected under 35 USC § 103(a) as being unpatentable over Cole et al., further in view of Quinn, further in view of Inazumi.

A.   Claims 13-16, 19-34, 38-42 are Patentable

Claim 13 has been amended to clarify that the method is a computerized method for classifying text. In contrast, Cole describes a system of speech recognition. Thus, Applicant respectfully submits that Cole is non-analogous art to the present claimed invention. Further, Cole fails to teach the element of claim 13 of classifying text.

The Office Action further states on page 14 at paragraph 43 that Cole fails to disclose said plurality of features contributing to a decision to classify a document or query item into said at least first category. Despite this admission, the Office Action further states in providing these admittedly missing claimed elements that "it was notoriously well known in the art at the time of the invention that a speech recognition program could recognize a recorded speech file or one retrieved by a query to allow delayed speech recognition, and it would have been obvious to one of ordinary skill in the art at the time of the invention to use this construction with Cole's invention to allow delayed speech recognition." This unsupported statement amounts to a form of Official Notice that is unsupported by a reference, and which is timely traversed under MPEP 2144.03. Applicant requests the Examiner provide a reference that describes such an element. Absent a reference, it appears that the Examiner is using personal knowledge, so the Examiner is respectfully requested to submit an affidavit as required by 37 C.F.R. § 1.104(d)(2). However, even if this is true, Applicant is unsure of how it teaches the admittedly missing elements of claim 13.

Thus, Applicant respectfully submits that independent claim 13 is patentable because Cole is non-analogous art and admittedly fails to teach all of the claimed elements. Reconsideration and allowance of claim 13 is respectfully requested.

Claims 14-16, 19-34, 38-42 depend, directly or indirectly, from patentable independent claim 13 and are patentable for the reasons argued above, plus the elements in the claims. As stated above, if an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. MPEP § 2143.03.

III.   Claims 72-92

Claims 72-74, 76 and 78-91 were rejected under 35 USC § 103(a) as being unpatentable over Cole, further in view of Murphy (U.S. Patent No. 5,073,867).

Claim 75 was rejected under 35 USC § 103(a) as being unpatentable over Cole, further in view of Murphy, further in view Haimowitz et al. (U.S. Patent No. 5,819,291).

Claim 77 was rejected under 35 USC § 103(a) as being unpatentable over Cole, further in view of Murphy, further in view of Fein.

Claim 92 was rejected under 35 USC § 103(a) as being unpatentable over Cole, further in view of Murphy, further in view of Giljum.

A.   Claims 72-92 Are Patentable

Applicant respectfully submits that claims 72-92 are patentable because there is no motivation to combine Cole in view of Murphy and even if combine, the combination admittedly fails to teach all of the claimed elements.

For example, the Office Action states:

> "It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Murphy's trained neural network into Cole in order to gain the advantage of progressively accurate classification."

However, this is merely a conclusory statement of subjective belief. Applicant submits that the Office Action has not provided objective evidence of record as to why these references should be combined and is instead using impermissible hindsight. Further, the Office Action has failed to show any reasonable expectation of success in combining the references from the prior art. Thus, Applicant respectfully submits that there is no motivation to combine the references.

Further, the Office Action admits on page 26 at paragraph 85 that Cole fails to disclose receiving user-input defining all associations as set forth in the claim. However, the Office Action further states, without providing a reference, that:

> "[I]t was notoriously well known in the art at the time of the invention that users may input program data in order to have direct control over program operation, so it would have been obvious to one of ordinary skill in the art at the time of the invention to have the user input the association data to allow direct control over program operation."

This unsupported statement amounts to a form of Official Notice that is unsupported by a reference, and which is timely traversed under MPEP 2144.03. Applicant requests the Examiner provide a reference that describes such an element. Absent a reference, it appears that the Examiner is using personal knowledge, so the Examiner is respectfully requested to submit an affidavit as required by 37 C.F.R. § 1.104(d)(2). Thus, Applicant respectfully submits that the Office Action has failed to show all of the claimed elements.

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Absent a proper motivation to combine the references and a showing of all of the claimed elements in the prior art, Applicant submits that claim 72 is patentable. Reconsideration and allowance of independent claim 72 is respectfully requested.

Claims 73-92 depend, directly or indirectly, on claim 72 and are patentable over Cole in view of Murphy for the reasons argued above, plus the elements in the claims. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. MPEP § 2143.03

IV. "Notoriously well known in the art" Assertions

Throughout the Office Action, there are numerous assertion of what is "notoriously well known in the art." These assertions are all unsupported and each amounts to a form of Official Notice that is unsupported by a reference. Applicant respectfully traverses these assertion under MPEP 2144.03. Applicant requests the Examiner provide a reference or references that describes each of such an elements. Absent a reference, it appears that the Examiner is using personal knowledge, so the Examiner is respectfully requested to submit an affidavit to support each of the Officially Noticed elements as required by 37 C.F.R. § 1.104(d)(2).

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6909 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

IGOR UKRAINCZYK ET AL.

By their Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 14 day of February, 2005.

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